

IN THE CLAIMS:

Claims 27, 61B and 64A were previously cancelled without prejudice. Please now cancel claims 32-81 without prejudice and amend the claims as follows:

1. (Previously Presented) A seismic survey system for use in water, comprising:

a source array;

an independently steerable deflector device coupled to the source array, wherein the deflector device controls a position of the source array by changing an angle of attack of the deflector device with respect to a direction of a tow while maintaining the source array in a substantially inline direction, and wherein the deflector device is submerged underwater;

a positioning system to determine a location of the source array;

an acoustical transducer and receiver coupled to the source array; and

a controller for adjusting the deflector device to steer clear of an obstruction located by the acoustical transducer and receiver.

2. (Previously Presented) The seismic survey system of claim 1, wherein the source array trails directly behind the independently steerable deflector device in the inline direction.

3. (Previously Presented) The seismic survey system of claim 1, wherein the deflector device trails the source array in the inline direction.

4. (Previously Presented) The seismic survey system of claim 1, wherein the deflector device is disposed within the source array.

5. (Previously Presented) The seismic survey system of claim 1, wherein the positioning system comprises a positioning unit mounted on the source array, and wherein the positioning unit provides the controller with the location of the source array.

6. (Original) The seismic survey system of claim 5, wherein the positioning system is selected from a global positioning system, an acoustic network, and a laser system.
7. (Original) The seismic survey system of claim 5, wherein the positioning system is a satellite positioning system.
8. (Previously Presented) The seismic survey system of claim 1, wherein the controller controls the position of the deflector device.
9. (Previously Presented) The seismic survey system of claim 13, wherein the desired position is the same position as in a previous seismic survey.
10. (Previously Presented) The seismic survey system of claim 13, wherein the desired position is a set distance from an edge of a previous seismic survey.
11. (Original) The seismic survey system of claim 10, wherein the desired position avoids gaps in coverage.
12. (Original) The seismic survey system of claim 8, further comprising:
a positioning unit attached to the source array, wherein the positioning unit provides a signal to inform the controller of a current position of the source array.
13. (Original) The seismic survey system of claim 12, wherein a seismic source on the source array is triggered when the source array is at a desired position.
14. (Original) The seismic survey system of claim 8, wherein the controller is positioned at a location selected from a towing vessel, the deflector device, and combinations thereof.

15. (Original) The seismic survey system of claim 1, wherein the deflector device comprises:

one or more wings; and

a central body, wherein the one or more wings are disposed adjacent to the central body.

16. (Original) The seismic survey system of claim 15, wherein the one or more wings are in a generally vertical arrangement.

17. (Original) The seismic survey system of claim 15, wherein the one or more wings are in a generally horizontal arrangement.

18. (Previously Presented) The seismic survey system of claim 15, further comprising:

an actuator disposed adjacent the central body, wherein the controller sends a signal to the actuator, and wherein the actuator moves the one or more wings.

19. (Original) The seismic survey system of claim 18, wherein the actuator uses a motive force selected from electrical and hydraulic.

20. (Original) The seismic survey system of claim 18, wherein the central body and the actuator are made of a material selected from metal, composite and combinations thereof.

21. (Original) The seismic survey system of claim 15, wherein the total area of the one or more wings is between about 1 and about 7 square meters.

22. (Previously Presented) The seismic survey system of claim 15, wherein the one or more wings are constructed of a material selected from metal, composite or combinations thereof.

23. (Original) The seismic survey system of claim 15, wherein the one or more wings are constructed of a metal skin covering a foam core.

24. (Original) The seismic survey system of claim 23, wherein the metal skin is selected from titanium and stainless steel.

25. (Original) The seismic survey system of claim 1, wherein the source array comprises one or more sub-arrays and wherein the sub-arrays are coupled to adjacent sub-arrays within the source array by a distance rope.

26. (Original) The seismic survey system of claim 1, further comprising:
a second independently steerable deflector device coupled to a second source array for controlling a second position of the second source array.

27. (Canceled)

28. (Previously Presented) The seismic survey system of claim 1, wherein the acoustical transducer and receiver are sonar devices.

29. (Previously Presented) The seismic survey system of claim 1, wherein the obstruction is selected from the group consisting of installed constructions, moored devices, floating devices, lead-in cables, umbilicals, towed equipment and combinations thereof.

30. (Previously Presented) The seismic survey system of claim 1, wherein the acoustic transducer and receiver are pointed in a given direction.

31. (Currently Amended) The seismic survey system of claim [[27]] 1, wherein the acoustic transducer and receiver sweeps in many directions.

32-81. (Cancelled)

82. (Previously Presented) A seismic survey system for use in water, comprising:
a source array having a first sub-array and a second sub-array;
a positioning system to determine a location of the source array;
a first deflector device coupled to the first sub-array;
a second deflector device coupled to the second sub-array, wherein the first and second deflector devices are:

configured to control a position of the source array by changing an angle of attack of the first and second deflector devices with respect to a direction of a tow while maintaining the source array in a substantially inline direction;

configured to position the source array on both sides of a center line of a towing vessel during a seismic survey; and

submerged underwater;

an acoustical transducer and receiver coupled to the source array; and

a controller, wherein the controller adjusts the first deflector device and the second deflector device to steer clear of an obstruction located by the acoustical transducer and receiver.

83. (Previously Presented) The seismic survey system of claim 1, wherein the source array comprises:

a float disposed on the surface of the water;

one or more sources coupled to the float such that the sources are suspended below the float; and

wherein the deflector device is also suspended below the float.